

Work Order ID 122911

Tuesday, July 29, 2014 2:25:45 PM

647.4611  
B122911  
REV. N/C2

\*122911\*

Page 1

Item ID: 647.4611

Revision ID:

Item Name: Deflector

Start Date: 7/29/14 Start Qty: 6.00 \*6\*

Required Date: 7/29/14 Req'd Qty: 6.00 \*6\*

Reference:

Accept

\*N900040100\*

Setup Start \*NS1\*

Stop \*NS2\*

Cust Item ID:

Customer:

Approvals: Process Plan: WM Date: 7/30/14 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start \*NR1\*

Stop \*NR2\*

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| Draw Nbr                       | Revision Nbr             |                      |         |        |              |               |               |                  |                |
| 647.4600                       | N/C2                     |                      |         |        |              |               |               |                  |                |

110

0.00

\*110\*

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

Billet size: 1.250" X 7.000" X 50.000"

1-Machine per folio FB174

DWG REV: N/C

FOLIO REV: AA

2- deburr and break all sharp edges

DAS

44

9-89

14/11/18

120

QC2- Inspect parts off machine FAI/FAIB

0.00

\*120\*

QC

Memo

0.00

Quality Control

DAS

44

9-89

14/11/18

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                                                                                                                          |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                          |                                                                                                                                                      |                                                                                                                                                                       |                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____                                                                                             | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width: 100%;"> <tr> <td style="width: 33%;">           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </td> <td style="width: 33%;">           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </td> <td style="width: 33%;">           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </td> <td style="width: 33%;">           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </td> </tr> </table> | Skid-tube <input type="checkbox"/><br>Machining <input type="checkbox"/><br>Thermoforming <input type="checkbox"/><br>Large Fab <input type="checkbox"/> | Crosstube <input type="checkbox"/><br>Small Fab <input type="checkbox"/><br>Finishing <input type="checkbox"/><br>Composite <input type="checkbox"/> | Water Jet <input type="checkbox"/><br>Prod. Eng. Coord. <input type="checkbox"/><br>Rec/Store/Packaging <input type="checkbox"/><br>Supplier <input type="checkbox"/> | Engineering <input type="checkbox"/><br>Quality <input type="checkbox"/><br>Other <input type="checkbox"/> |
| Skid-tube <input type="checkbox"/><br>Machining <input type="checkbox"/><br>Thermoforming <input type="checkbox"/><br>Large Fab <input type="checkbox"/> | Crosstube <input type="checkbox"/><br>Small Fab <input type="checkbox"/><br>Finishing <input type="checkbox"/><br>Composite <input type="checkbox"/>                               | Water Jet <input type="checkbox"/><br>Prod. Eng. Coord. <input type="checkbox"/><br>Rec/Store/Packaging <input type="checkbox"/><br>Supplier <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Engineering <input type="checkbox"/><br>Quality <input type="checkbox"/><br>Other <input type="checkbox"/>                                               |                                                                                                                                                      |                                                                                                                                                                       |                                                                                                            |

| Root Cause    | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|-----------------------------------------------------|-------------------|--------------------|-------------|--------------|--------------|
| Design        |      |      |     |                                                     |                   |                    |             |              |              |
| Doc/Data      |      |      |     |                                                     |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |                                                     |                   |                    |             |              |              |
| Handling/Pre  |      |      |     |                                                     |                   |                    |             |              |              |
| Material      |      |      |     |                                                     |                   |                    |             |              |              |
| Operator      |      |      |     |                                                     |                   |                    |             |              |              |
| Offset/Setup  |      |      |     |                                                     |                   |                    |             |              |              |
| Process       |      |      |     |                                                     |                   |                    |             |              |              |
| Supplier      |      |      |     |                                                     |                   |                    |             |              |              |
| Training      |      |      |     |                                                     |                   |                    |             |              |              |
| Transport     |      |      |     |                                                     |                   |                    |             |              |              |
| Unapproved    |      |      |     |                                                     |                   |                    |             |              |              |

### FAULT CATEGORY

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crimp/Kink/Ripple/Wave<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Crushing<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Marks/Chatter<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damage/Defect<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete/Unqualified<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Misaligned/off center<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Off-set<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence |
| <input type="checkbox"/> Outside Dimensions<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Set-up<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><input type="checkbox"/> Other                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**Work Order ID 122911**

Tuesday, July 29, 2014 2:25:45 PM

**\*122911\***

Page 2

Item ID: 647.4611

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Deflector

Start Date: 7/29/14 Start Qty: 6.00

**\*6\***

Cust Item ID:

Required Date: 7/29/14 Req'd Qty: 6.00

**\*6\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description                      | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|-----------------------------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
| 130                            | QC8- Inspect parts - second check             | 0.00                 |         |        |              |               |               |                  |                |
| <b>*130*</b>                   |                                               |                      |         |        |              |               |               |                  |                |
| QC                             | Memo                                          | 0.00                 |         |        |              | 6             | 0             |                  | JL 2014-11-21  |
| Quality Control                |                                               |                      |         |        |              |               |               |                  |                |
| 131                            |                                               | 0.00                 |         |        |              |               |               |                  |                |
| <b>*131*</b>                   |                                               |                      |         |        |              |               |               |                  |                |
| HandFinish                     | Memo                                          | 0.00                 |         |        |              |               |               |                  |                |
| Hand Finishing                 | CLEAN AND REMOVE ALL PART MARKING             |                      |         |        |              |               |               |                  |                |
| 140                            | Outsource process-Anodize per QSI017 4.1.10.1 | 0.00                 |         |        |              |               |               |                  |                |
| <b>*140*</b>                   |                                               |                      |         |        |              |               |               |                  |                |
| Outsource4                     | Memo                                          | 0.00                 |         |        |              |               |               |                  |                |
| Outsource process - Anodize    | Issue P/O to ATG : 26682                      |                      |         |        |              |               |               |                  | CZ 14/12/02 6  |
|                                | 1- Black Anodize as per Dwg 647.4600          |                      |         |        |              |               |               |                  |                |
|                                | 2- PRIME AS PER DWG, SEE NOTE #2              |                      |         |        |              |               |               |                  |                |
|                                | Certification of Conformity is required       |                      |         |        |              |               |               |                  |                |

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                      |                                    |                                    |                                      |                                    |                                    |                                            |                                  |                                        |                                    |                                              |                                |                                    |                                    |                                   |  |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------|------------------------------------|------------------------------------|--------------------------------------------|----------------------------------|----------------------------------------|------------------------------------|----------------------------------------------|--------------------------------|------------------------------------|------------------------------------|-----------------------------------|--|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Water Jet <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table> | Skid-tube <input type="checkbox"/>   | Crosstube <input type="checkbox"/> | Water Jet <input type="checkbox"/> | Engineering <input type="checkbox"/> | Machining <input type="checkbox"/> | Small Fab <input type="checkbox"/> | Prod. Eng. Coord. <input type="checkbox"/> | Quality <input type="checkbox"/> | Thermoforming <input type="checkbox"/> | Finishing <input type="checkbox"/> | Rec/Store/Packaging <input type="checkbox"/> | Other <input type="checkbox"/> | Large Fab <input type="checkbox"/> | Composite <input type="checkbox"/> | Supplier <input type="checkbox"/> |  |
| Skid-tube <input type="checkbox"/>                           | Crosstube <input type="checkbox"/>                                                                                                                                                 | Water Jet <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Engineering <input type="checkbox"/> |                                    |                                    |                                      |                                    |                                    |                                            |                                  |                                        |                                    |                                              |                                |                                    |                                    |                                   |  |
| Machining <input type="checkbox"/>                           | Small Fab <input type="checkbox"/>                                                                                                                                                 | Prod. Eng. Coord. <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Quality <input type="checkbox"/>     |                                    |                                    |                                      |                                    |                                    |                                            |                                  |                                        |                                    |                                              |                                |                                    |                                    |                                   |  |
| Thermoforming <input type="checkbox"/>                       | Finishing <input type="checkbox"/>                                                                                                                                                 | Rec/Store/Packaging <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Other <input type="checkbox"/>       |                                    |                                    |                                      |                                    |                                    |                                            |                                  |                                        |                                    |                                              |                                |                                    |                                    |                                   |  |
| Large Fab <input type="checkbox"/>                           | Composite <input type="checkbox"/>                                                                                                                                                 | Supplier <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                      |                                    |                                    |                                      |                                    |                                    |                                            |                                  |                                        |                                    |                                              |                                |                                    |                                    |                                   |  |

| Root Cause    | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|-----------------------------------------------------|-------------------|--------------------|-------------|--------------|--------------|
| Design        |      |      |     |                                                     |                   |                    |             |              |              |
| Doc/Data      |      |      |     |                                                     |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |                                                     |                   |                    |             |              |              |
| Handling/Pre  |      |      |     |                                                     |                   |                    |             |              |              |
| Material      |      |      |     |                                                     |                   |                    |             |              |              |
| Operator      |      |      |     |                                                     |                   |                    |             |              |              |
| Offset/Setup  |      |      |     |                                                     |                   |                    |             |              |              |
| Process       |      |      |     |                                                     |                   |                    |             |              |              |
| Supplier      |      |      |     |                                                     |                   |                    |             |              |              |
| Training      |      |      |     |                                                     |                   |                    |             |              |              |
| Transport     |      |      |     |                                                     |                   |                    |             |              |              |
| Unapproved    |      |      |     |                                                     |                   |                    |             |              |              |

### FAULT CATEGORY

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crimp/Kink/Ripple/Wave<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Crushing<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Marks/Chatter<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damage/Defect<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete/Unqualified<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Misaligned/off center<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Off-set<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Outside Dimensions<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Set-up<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Work Order ID 122911**

Tuesday, July 29, 2014 2:25:45 PM

**\*122911\***

Page 3

Item ID: 647.4611

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Deflector

Start Date: 7/29/14 Start Qty: 6.00

**\*6\***

Cust Item ID:

Required Date: 7/29/14 Req'd Qty: 6.00

**\*6\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***Stop **\*NR2\***

| Sequence ID/<br>Work Center ID | Operation<br>Description | Set Up/<br>Run Hours | Tool ID | Tool # | Plan<br>Code | Accept<br>Qty | Reject<br>Qty | Reject<br>Number | Insp.<br>Stamp |
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|
|--------------------------------|--------------------------|----------------------|---------|--------|--------------|---------------|---------------|------------------|----------------|

150

Receive &amp; Inspect for Damage &amp; Mat'l Certs

0.00

**\*150\***

Packaging

Memo

0.00

Packaging

6x SP14-12-23.

155

QC5- Inspect part completeness to step on W/O

0.00

**\*155\***

QC

Memo

0.00

Quality Control

(6)

DAG  
38  
9-89

JAN 19 2015

180

Identify as per dwg &amp; Stock Location: CCF 40

0.00

**\*180\***

Packaging

Memo

0.00

Packaging

\*\*\*IDENTIFY AS PER APICAL MPP-120 BY STAMPING P# AND REV\*\*\*

FEB 03 2015

6

DAG  
38  
9-89

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Root Cause    | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|-----------------------------------------------------|-------------------|--------------------|-------------|--------------|--------------|
| Design        |      |      |     |                                                     |                   |                    |             |              |              |
| Doc/Data      |      |      |     |                                                     |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |                                                     |                   |                    |             |              |              |
| Handling/Pre  |      |      |     |                                                     |                   |                    |             |              |              |
| Material      |      |      |     |                                                     |                   |                    |             |              |              |
| Operator      |      |      |     |                                                     |                   |                    |             |              |              |
| Offset/Setup  |      |      |     |                                                     |                   |                    |             |              |              |
| Process       |      |      |     |                                                     |                   |                    |             |              |              |
| Supplier      |      |      |     |                                                     |                   |                    |             |              |              |
| Training      |      |      |     |                                                     |                   |                    |             |              |              |
| Transport     |      |      |     |                                                     |                   |                    |             |              |              |
| Unapproved    |      |      |     |                                                     |                   |                    |             |              |              |

### FAULT CATEGORY

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crimp/Kink/Ripple/Wave<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Crushing<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Marks/Chatter<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damage/Defect<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete/Unqualified<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Misaligned/off center<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Off-set<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Outside Dimensions<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Set-up<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Work Order ID 122911**

Tuesday, July 29, 2014 2:25:45 PM

**\*122911\***

Page 4

Item ID: 647.4611

Accept

**\*N900040100\***Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: Deflector

Start Date: 7/29/14 Start Qty: 6.00

**\*6\***

Cust Item ID:

Required Date: 7/29/14 Req'd Qty: 6.00

**\*6\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop **\*NR2\***Sequence ID/  
Work Center IDOperation  
DescriptionSet Up/  
Run Hours

Tool ID

Tool #

Plan  
CodeAccept  
QtyReject  
QtyReject  
NumberInsp.  
Stamp

190

QC21- Final Inspection - Work Order Release

0.00

**\*190\***

QC

Memo

0.00

Quality Control

MLJ 15-02-05

① 15-2-4

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br>Rework <input type="checkbox"/><br>Scrap <input type="checkbox"/><br>Use-as-is <input type="checkbox"/><br>Suspected Unapproved <input type="checkbox"/> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-between;"> <div>           Skid-tube <input type="checkbox"/><br/>           Machining <input type="checkbox"/><br/>           Thermoforming <input type="checkbox"/><br/>           Large Fab <input type="checkbox"/> </div> <div>           Crosstube <input type="checkbox"/><br/>           Small Fab <input type="checkbox"/><br/>           Finishing <input type="checkbox"/><br/>           Composite <input type="checkbox"/> </div> <div>           Water Jet <input type="checkbox"/><br/>           Prod. Eng. Coord. <input type="checkbox"/><br/>           Rec/Store/Packaging <input type="checkbox"/><br/>           Supplier <input type="checkbox"/> </div> <div>           Engineering <input type="checkbox"/><br/>           Quality <input type="checkbox"/><br/>           Other <input type="checkbox"/> </div> </div> |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Root Cause    | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|-----------------------------------------------------|-------------------|--------------------|-------------|--------------|--------------|
| Design        |      |      |     |                                                     |                   |                    |             |              |              |
| Doc/Data      |      |      |     |                                                     |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |                                                     |                   |                    |             |              |              |
| Handling/Pre  |      |      |     |                                                     |                   |                    |             |              |              |
| Material      |      |      |     |                                                     |                   |                    |             |              |              |
| Operator      |      |      |     |                                                     |                   |                    |             |              |              |
| Offset/Setup  |      |      |     |                                                     |                   |                    |             |              |              |
| Process       |      |      |     |                                                     |                   |                    |             |              |              |
| Supplier      |      |      |     |                                                     |                   |                    |             |              |              |
| Training      |      |      |     |                                                     |                   |                    |             |              |              |
| Transport     |      |      |     |                                                     |                   |                    |             |              |              |
| Unapproved    |      |      |     |                                                     |                   |                    |             |              |              |

### FAULT CATEGORY

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crimp/Kink/Ripple/Wave<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Crushing<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Marks/Chatter<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damage/Defect<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete/Unqualified<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Misaligned/off center<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Off-set<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Outside Dimensions<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Set-up<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



# Picklist Print

Tuesday, July 29, 2014 2:25:45 PM

Page 1

Work Order ID: 122911

\*122911\*

Parent Item: 647.4611

\*647 4611\*

Parent Item Name: Deflector

Start Date: 7/29/14

Required Date: 7/29/14

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV: A NEW ISSUE 13/04/01 JFS VERIFY BY: JLM

| Component Item ID/<br>Item Name      | Replacement<br>Item ID | Mfg/<br>Purch | Bin<br>Item | Primary<br>Location | Last<br>Location | Route<br>Seq ID | Unit of<br>Measure | Qty on<br>Hand | Qty per Kit | Total<br>Qty | Qty<br>Issued | Date<br>Issued    | Status   |
|--------------------------------------|------------------------|---------------|-------------|---------------------|------------------|-----------------|--------------------|----------------|-------------|--------------|---------------|-------------------|----------|
| <del>M7075T6B1 250X07 000</del><br>0 |                        | Purchased     | No          |                     |                  |                 | f                  | 0.0000         |             | 25.002       |               |                   |          |
|                                      |                        |               |             |                     |                  |                 |                    |                |             |              |               | DAS<br>20<br>9-89 | 14-11-17 |
|                                      |                        |               |             |                     |                  |                 |                    |                |             | **           | <u>6</u>      |                   |          |
| *M7075T6B1 250X07 000*               |                        |               |             |                     |                  |                 |                    |                |             |              |               |                   |          |
| 7075-T6 BAR 1.25" X 7.000"           |                        |               |             |                     |                  |                 |                    |                |             |              |               |                   |          |

MISO 312

6 25.002

DQA: \_\_\_\_\_ Date: \_\_\_\_\_



## WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: \_\_\_\_\_ Date: \_\_\_\_\_

Work Order update only ☐

|                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Work Order: _____<br><br>Part No. _____<br><br>NCR No. _____ | <b>DISPOSITION</b><br><br><div style="display: flex; justify-content: space-around;"> <div>Rework <input type="checkbox"/></div> <div>Skid-tube <input type="checkbox"/></div> <div>Crosstube <input type="checkbox"/></div> <div>Water Jet <input type="checkbox"/></div> <div>Engineering <input type="checkbox"/></div> </div> <div style="display: flex; justify-content: space-around;"> <div>Scrap <input type="checkbox"/></div> <div>Machining <input type="checkbox"/></div> <div>Small Fab <input type="checkbox"/></div> <div>Prod. Eng. Coord. <input type="checkbox"/></div> <div>Quality <input type="checkbox"/></div> </div> <div style="display: flex; justify-content: space-around;"> <div>Use-as-is <input type="checkbox"/></div> <div>Thermoforming <input type="checkbox"/></div> <div>Finishing <input type="checkbox"/></div> <div>Rec/Store/Packaging <input type="checkbox"/></div> <div>Other <input type="checkbox"/></div> </div> <div>Suspected Unapproved <input type="checkbox"/></div> | <b>AGAINST DEPARTMENT/PROCESS</b><br><br><div style="display: flex; justify-content: space-around;"> <div>Large Fab <input type="checkbox"/></div> <div>Composite <input type="checkbox"/></div> <div>Supplier <input type="checkbox"/></div> </div> |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| Root Cause    | Date | Step | Qty | Description of work order update or non-conformance | Initial Chief Eng | Action Description | Sign & Date | Verification | QC Inspector |
|---------------|------|------|-----|-----------------------------------------------------|-------------------|--------------------|-------------|--------------|--------------|
| Design        |      |      |     |                                                     |                   |                    |             |              |              |
| Doc/Data      |      |      |     |                                                     |                   |                    |             |              |              |
| Equip/Tooling |      |      |     |                                                     |                   |                    |             |              |              |
| Handling/Pre  |      |      |     |                                                     |                   |                    |             |              |              |
| Material      |      |      |     |                                                     |                   |                    |             |              |              |
| Operator      |      |      |     |                                                     |                   |                    |             |              |              |
| Offset/Setup  |      |      |     |                                                     |                   |                    |             |              |              |
| Process       |      |      |     |                                                     |                   |                    |             |              |              |
| Supplier      |      |      |     |                                                     |                   |                    |             |              |              |
| Training      |      |      |     |                                                     |                   |                    |             |              |              |
| Transport     |      |      |     |                                                     |                   |                    |             |              |              |
| Unapproved    |      |      |     |                                                     |                   |                    |             |              |              |

### FAULT CATEGORY

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Landing Gear</b><br><input type="checkbox"/> Bending<br><input type="checkbox"/> Centre Not Concentric<br><input type="checkbox"/> Cracks<br><input type="checkbox"/> Crimp/Kink/Ripple/Wave<br><input type="checkbox"/> Cuffs<br><input type="checkbox"/> Crushing<br><input type="checkbox"/> Heat Treat<br><input type="checkbox"/> Inspection Strip in Tube<br><input type="checkbox"/> Marks/Chatter<br><input type="checkbox"/> Turning Sequence<br><input type="checkbox"/> Wave/Twist in Tube | <b>General</b><br><input type="checkbox"/> Bend<br><input type="checkbox"/> BOM/Route<br><input type="checkbox"/> Broken/Damage/Defect<br><input type="checkbox"/> Burrs<br><input type="checkbox"/> Contamination<br><input type="checkbox"/> Countersink<br><input type="checkbox"/> Cut Too Short<br><input type="checkbox"/> Drawing<br><input type="checkbox"/> Drill Holes<br><input type="checkbox"/> Finish<br><input type="checkbox"/> Fit/Function | <input type="checkbox"/> Folio/Program<br><input type="checkbox"/> Grain<br><input type="checkbox"/> Hardware<br><input type="checkbox"/> Inspection Incomplete/Unqualified<br><input type="checkbox"/> Instructions Incomplete/Unclear<br><input type="checkbox"/> Misaligned/off center<br><input type="checkbox"/> Mislabeled<br><input type="checkbox"/> Misread<br><input type="checkbox"/> Off-set<br><input type="checkbox"/> Out of Calibration<br><input type="checkbox"/> Out of Sequence | <input type="checkbox"/> Outside Dimensions<br><input type="checkbox"/> Over/Under tolerance<br><input type="checkbox"/> Part Incorrect<br><input type="checkbox"/> Part Lost/Missing<br><input type="checkbox"/> Part Moved<br><input type="checkbox"/> Positioned Wrong<br><input type="checkbox"/> Power Loss/Surge<br><br><input type="checkbox"/> Pressure/Forced<br><input type="checkbox"/> Set-up<br><input type="checkbox"/> Temperature/Cure<br><input type="checkbox"/> Weld<br><input type="checkbox"/> Wrong Stock Pulled<br><br><input type="checkbox"/> Other |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                                 |                     |             |
|-------------------------------------------------|---------------------|-------------|
| <b>DART AEROSPACE LTD</b>                       | <b>Work Order:</b>  | 122911      |
| <b>Description:</b>                             | <b>Part Number:</b> | 647.461,    |
| <b>Inspection Dwg:</b> 647.4600 <b>Rev:</b> N/C |                     | Page 1 of 1 |

## FIRST ARTICLE INSPECTION CHECKLIST

[illegible]

**~~UAS~~**

|              |            |             |            |                       |  |
|--------------|------------|-------------|------------|-----------------------|--|
| Measured by: | 44<br>9-89 | Audited by: | JFL        | Preliminary Approval: |  |
| Date:        | 14/11/18   | Date:       | 2014-11-21 | Date:                 |  |

| Rev | Date     | Change                     | Revised by | Approved |
|-----|----------|----------------------------|------------|----------|
| E   | 10.04.14 | Added preliminary approval | KJ         |          |

10.04.15

# APICAL

INDUSTRIES, INC.

ENGINEERING CHANGE NOTICE NO.

03888

SHEET 1 OF 1

DWG NO. 647.4600

REV: NC

PREPARED BY B. PETERS

DATE: 05/16/13

EFFECT ON DWG  
☐ INC. ☒ UNINC.

DWG TITLE: DEFLECTORS

APPROVED BY:

ENGR

*[Signature]*

MFG

*[Signature]*

QC

*[Signature]*

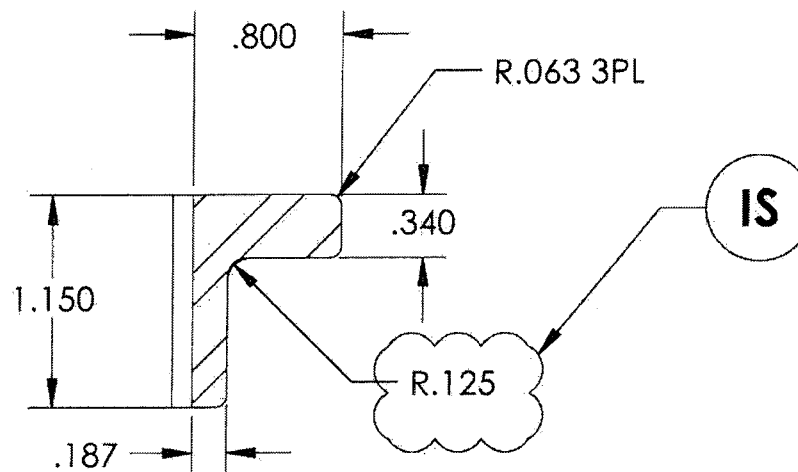
EFF.

NEXT ORDER

TRANSACTION CODES (TC):  
 A-ADD C-CREATE  
 R-REVISE D-DELETE

REASON: REVISED RADIUS DIMENSION TO STANDARD SIZE.

**SHEET 3, ZONE A4 IS:**



SECTION E-E

SHOP COPY  
 RETURN TO  
 ENGINEERING  
 UNCONTROLLED COPY  
 SUBJECT TO AMENDMENT  
 WITHOUT NOTICE  
 WORK ORDER  
 NO. 122911 MLC

14-08-15

DOCUMENTS EFFECTED:

☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM

CHANGE CATEGORY

☐ MAJOR ☒ MINOR

DER REVIEW REQUIRED

☐ YES ☒ NO

|                                                               |                                     |                                                                                |                       |                 |                                                                                           |  |
|---------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------|-----------------------|-----------------|-------------------------------------------------------------------------------------------|--|
| APICAL<br>INDUSTRIES, INC.                                    | ENGINEERING CHANGE NOTICE NO. 03088 |                                                                                |                       |                 | SHEET 1 OF 1                                                                              |  |
|                                                               | DWG NO. 647.4600                    | REV: N/C                                                                       | PREPARED BY R. ROSANO | DATE: 04/27/11  | EFFECT ON DWG<br><input type="checkbox"/> INC. <input checked="" type="checkbox"/> UNINC. |  |
|                                                               | DWG TITLE: DEFLECTORS               |                                                                                |                       |                 |                                                                                           |  |
| APPROVED BY: ENGR <i>[Signature]</i>                          |                                     | MFG <i>[Signature]</i>                                                         | QC <i>[Signature]</i> | EFF: NEXT ORDER |                                                                                           |  |
| TRANSACTION CODES (TC)<br>A-ADD C-CREATE<br>R-REVISE D-DELETE |                                     | REASON: CORRECTED HOLE SIZE FOR 647.4610 UPPER DEFLECTOR, REVISED DELTA NOTE 2 |                       |                 |                                                                                           |  |

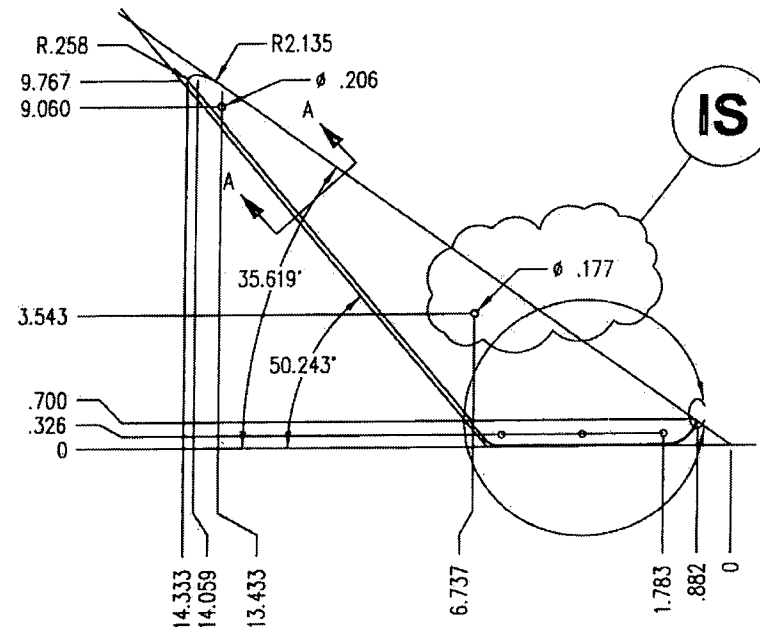
SHEET 1, ZONE A1, IS:

SHEET 1, ZONE C3, IS:

NOTES:

- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III,  
CLASS 2, COLOR BLACK.  
PRETREAT PR-148 ADHESION PROMOTER;  
PRIME IAW MIL-P-23377 TYPE I CLASS N, 1-2 MIL MAX.
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120.
- 5 MAXIMUM DIMENSION AFTER FINISH

IS



|                     |    |             |     |                                                                                                                                 |                                                                                             |                                                                                            |
|---------------------|----|-------------|-----|---------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| F/N                 | TC | PART NUMBER | QTY | DESCRIPTION                                                                                                                     | MATERIAL                                                                                    | SPECIFICATION                                                                              |
| DOCUMENTS EFFECTED: |    |             |     | <input type="checkbox"/> MDL <input type="checkbox"/> INSTALL INSTRUC <input type="checkbox"/> ICA <input type="checkbox"/> BOM | CHANGE CATEGORY<br><input type="checkbox"/> MAJOR <input checked="" type="checkbox"/> MINOR | DER REVIEW REQUIRED<br><input type="checkbox"/> YES <input checked="" type="checkbox"/> NO |

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

# NOTES:

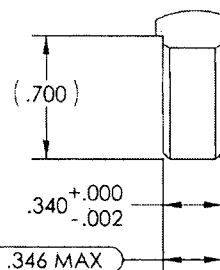
- 1 MATERIAL: ALUMINUM 7075-T651 PER AMS-QQ-A-250/12.
- 2 FINISH: HARD ANODIZE IAW MIL-A-8625 TYPE III, CLASS 2, COLOR BLACK; CARDINAL 4860-50 PRETREATMENT PRIMER PRIME IAW MIL-P-23377J TYPE I CLASS N; 1-2 MIL MAX.
3. DEBURR AND BREAK ALL SHARP EDGES.
4. IDENTIFY IAW MPP-120.
- 5 MAXIMUM DIMENSION AFTER FINISH

UNINCORPORATED ECN(S)

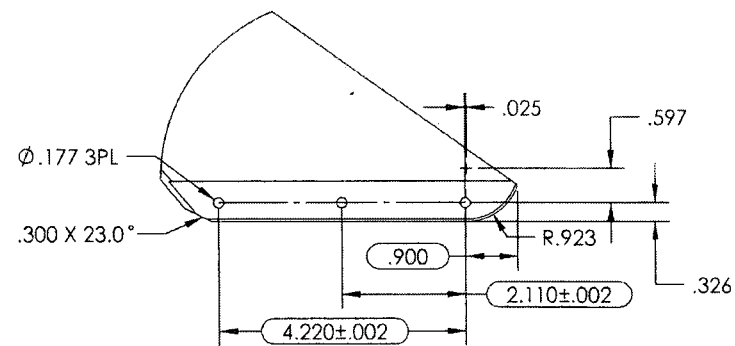
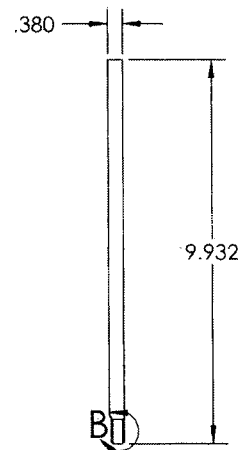
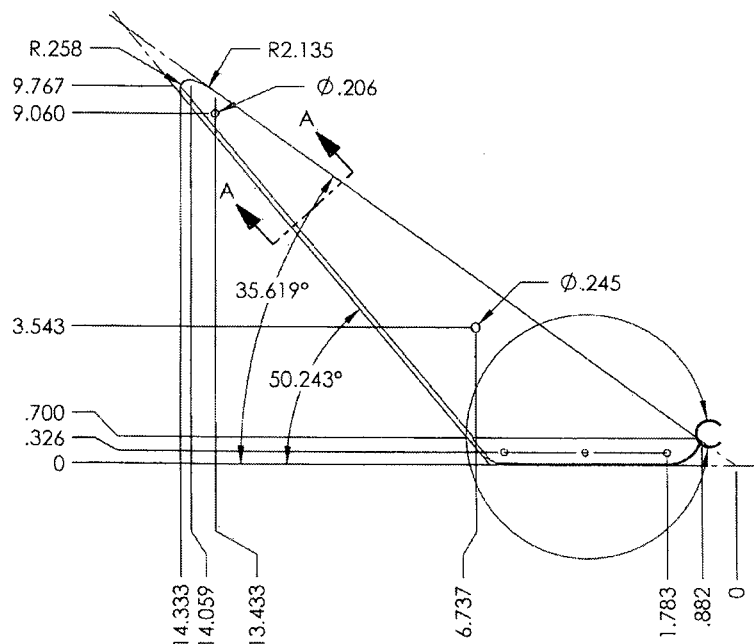
03088, 03089

.130 X 45.0° TYP

SECTION A-A



DETAIL B



DETAIL C

647.4610

| REV. | DESCRIPTION        | DATE     | APPROVED |
|------|--------------------|----------|----------|
| 1    | LAST PROTOTYPE PRT | 10-14-09 | N/C      |
| N/C  | INITIAL RELEASE    |          | P. BRAYD |

|               |          |                 |      |       |
|---------------|----------|-----------------|------|-------|
| QTY           | 647.4611 | DEFLECTOR       |      |       |
| NEXT ASSY (S) | 647.4610 | UPPER DEFLECTOR |      |       |
| 647.2600      | PART #   | DESCRIPTION     | MATL | SPEC. |
| 647.4500      |          |                 |      |       |

|                              |          |
|------------------------------|----------|
| ORIGINAL DATE<br>(JUN-04-09) | 10-14-09 |
| DRAWN BY<br>A QUART          | CHIEFER  |
| CHECKED BY<br>P. BRAYD       |          |
| CONTRACT NO.                 |          |

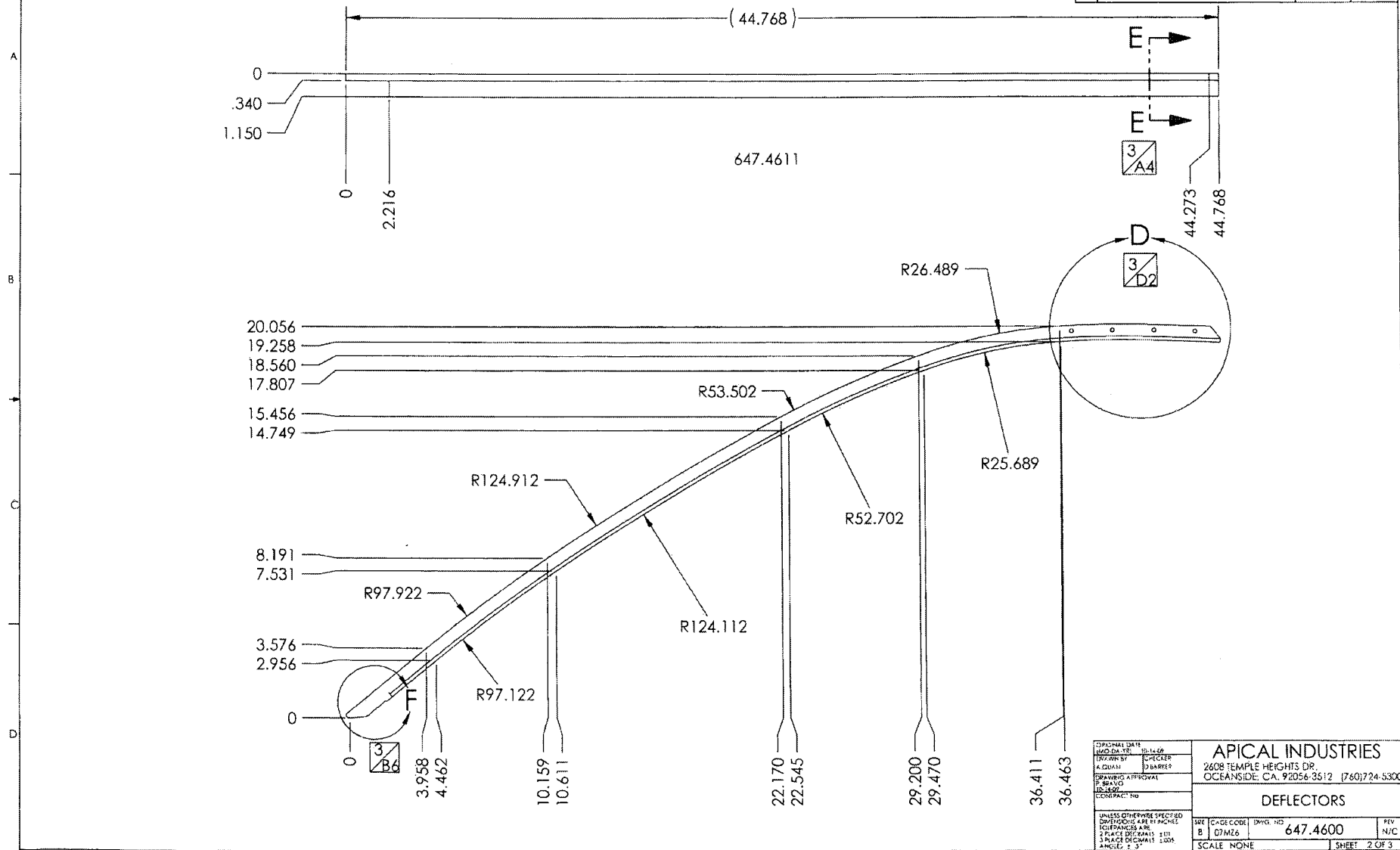
|                                                                                                                                                 |  |                                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------|
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>FRACTIONS DECIMALS INCHES<br>3 PLACE DECIMALS ±.003<br>ANGLES ±.5° |  | <b>APICAL INDUSTRIES</b><br>2608 TEMPLE HEIGHTS DR.<br>OCEANSIDE, CA. 92056-3512 (760) 724-5300<br><b>DEFLECTORS</b> |
|-------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------------------|

|                 |                    |            |
|-----------------|--------------------|------------|
| SHEET CODE<br>B | DWG NO<br>647.4600 | REV<br>N/C |
| SCALE<br>NONE   | SHEET 1 OF 3       |            |

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

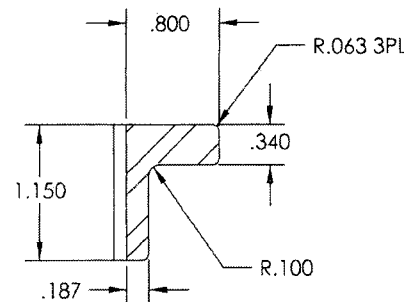
| REVISIONS |             |      |          |
|-----------|-------------|------|----------|
| REV.      | DESCRIPTION | DATE | APPROVED |
|           |             |      |          |
|           |             |      |          |



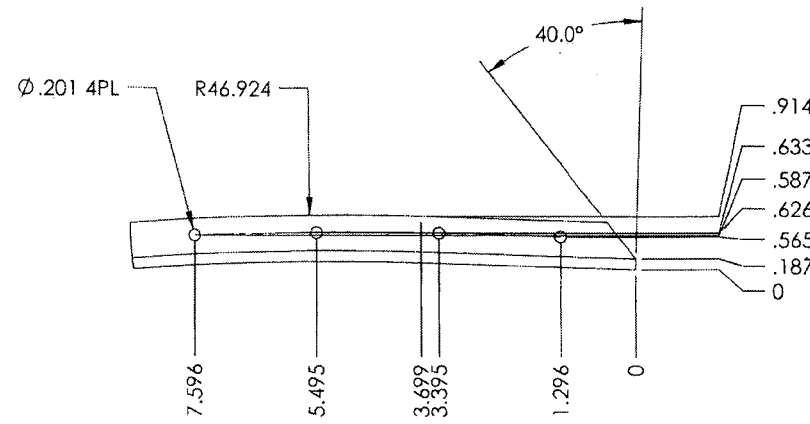
|                                                                                                                                                      |  |                                                                                                 |               |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------------------|---------------|
| ORIGINAL DATA<br>MADE BY: J. L. G. B.<br>DRAWN BY: A. C. J. A. N.<br>CHECKED BY: J. B. A. R. R.<br>DRAWING APPROVAL: P. B. A. V. O.<br>CONTRACT NO.: |  | <b>APICAL INDUSTRIES</b><br>2608 TEMPLE HEIGHTS DR.<br>OCEANSIDE, CA. 92056-3512 (760) 724-5300 |               |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>TOLERANCES ARE:<br>2 PLACE DECIMALS ±.01<br>3 PLACE DECIMALS ±.005<br>ANGLES ±.5°          |  | SCALE: NONE                                                                                     | SHEET: 2 OF 3 |

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

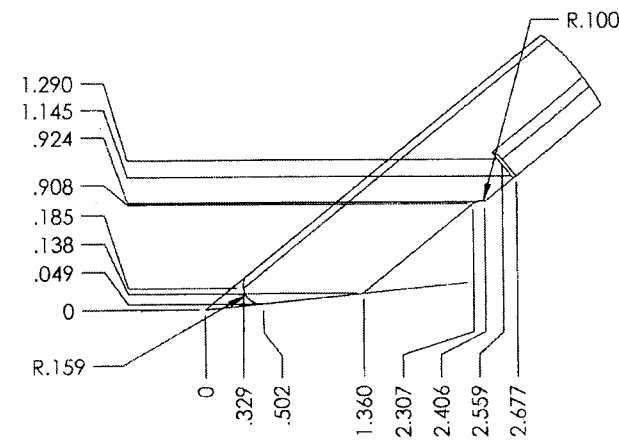
| REVISIONS |             |      |          |
|-----------|-------------|------|----------|
| REV.      | DESCRIPTION | DATE | APPROVED |
|           |             |      |          |
|           |             |      |          |



SECTION E-E 2/A7



DETAIL D 2/B7



DETAIL F 2/D2

|                                                                                                                                                      |  |                                                                                                |               |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------------------|---------------|
| ORIGINAL DATE: _____<br>MODIFIED BY: _____<br>DRAWN BY: _____<br>CHECKED BY: _____<br>DESIGNED BY: _____<br>APPROVED BY: _____<br>CONTRACT NO: _____ |  | <b>APICAL INDUSTRIES</b><br>2608 TEMPLE HEIGHTS DR.<br>OCEANSIDE, CA. 92056-3512 (760)724-5300 |               |
| UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES<br>DECIMALS .001<br>3 PLACE DECIMALS .000<br>ANGLES 1/2°                                      |  | SITE: _____<br>SCALE: NONE                                                                     | SHEET: 3 OF 3 |





Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID PO26682

Purchase Order Date 12/2/2014

PO Print Date 12/9/2014

Page Number 6 of 7

**Order From :**

VC-ATG001

A.T.G. INDUSTRIES INC.  
731 INDUSTRIELLE ROAD  
ROCKLAND, ON K4K 1T2  
CANADA

**Ship To :** DART AEROSPACE LTD

1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

**Contact Name**

**Vendor Phone**

613-446-4544

**Ship To Contact**

**Ship To Phone**

**Ship Via:**

VENDOR'S TRUCK

**Ship Acct:**

**Buyer**

Chantal Lavoie

**Customer POID**

**Customer Tax #**

10127-2607

**Terms**

Net 30

**Currency**

CAD

**FOB**

FCA - (Free Carrier)

|    |        |                                |            |      |         |       |
|----|--------|--------------------------------|------------|------|---------|-------|
| 15 | 122911 | 647.4611 DEFLECTOR<br>REV. N/C | 12/10/2014 | 6.00 | \$47.25 | \$283 |
|----|--------|--------------------------------|------------|------|---------|-------|

Yes  
12/19/2014

AS ABOVE

8014-1223  
Line Total: \$283

|    |        |                                    |            |      |         |      |
|----|--------|------------------------------------|------------|------|---------|------|
| 16 | 124527 | 647.9810 MOUNTING<br>RAIL REV. N/C | 12/10/2014 | 5.00 | \$10.80 | \$54 |
|----|--------|------------------------------------|------------|------|---------|------|

Yes  
12/19/2014

AS ABOVE

Line Total: \$54

Note:

12/9/2014



A.T.G. Industries Inc.  
731, rue Industrielle Rd.  
PLATING DEPARTMENT  
Rockland, On K4K 1T2  
Canada  
Ph: (613) 446-4544  
Fax: (613) 446-4556

## Pack List

Number: 63448

Date: 19-Dec-14

To

DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

Ship To

DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

| Terms    |                                                                                                                                                                                                | Ship Via |          |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|
|          |                                                                                                                                                                                                |          |          |
| Quantity | Description                                                                                                                                                                                    |          |          |
|          | Job: 20140863 PO: PO26682 Line: 13                                                                                                                                                             |          |          |
| 22<br>ea | Part: 647.4113<br>CLIP<br>HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2<br>PRIME AS PER MIL-P-23377J TYPE I CLASS N<br>PRIMER IS SUPPLY BY THE CUSTOMER<br>Job: 20140864 PO: PO26682          | Rev: N/C | Line: 14 |
| 6<br>ea  | Part: 647.4611<br>DEFLECTOR<br>HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2<br>PRIME AS PER MIL-P-23377J TYPE I CLASS N<br>PRIMER IS SUPPLY BY THE CUSTOMER<br>Job: 20140865 PO: PO26682     | Rev: N/C | Line: 15 |
| 5<br>ea  | Part: 647.9810<br>MOUNTING RAIL<br>HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2<br>PRIME AS PER MIL-P-23377J TYPE I CLASS N<br>PRIMER IS SUPPLY BY THE CUSTOMER<br>Job: 20140866 PO: PO26682 | Rev: N/C | Line: 16 |
| 2<br>ea  | Part: D4674-1<br>UPPER RAIL<br>HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2<br>PRIME AS PER MIL-P-23377J TYPE I CLASS N<br>PRIMER IS SUPPLY BY THE CUSTOMER<br>Job: 20140852 PO: PO26682     | Rev: D   | Line: 2  |
| 5<br>ea  | Part: D5140-1<br>UPPER CUTTER                                                                                                                                                                  | Rev: A   |          |

8814-12-23.



A.T.G. Industries Inc.  
731, rue Industrielle Rd.  
PLATING DEPARTMENT  
Rockland, On K4K 1T2  
Canada

Ph: (613) 446-4544  
Fax: (613) 446-4556

### Pack List

Number: 63448

Date: 19-Dec-14

To

DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

Ship To

DART AEROSPACE LTD  
1270 ABERDEEN ST.  
HAWKESBURY, ON K6A 1K7  
Canada

Ph: 613-632-5200

Fax: 613-632-1185

Ph: 613-632-5200

Fax: 613-632-1185

| Terms                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                     | Ship Via |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--|
| Quantity                                                                                                                                                                                                                                                                                                                                                                                                                                                | Description                                                                                                                                                                                                         |          |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Job: 20140857 PO: PO26682 Line: 7                                                                                                                                                                                   |          |  |
| 6<br>ea                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Part: 646.9810 Rev: A<br>DEFLECTOR<br>HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2<br><br>PRIME AS PER MIL-P-23377J TYPE I CLASS N<br>PRIMER IS SUPPLY BY THE CUSTOMER<br>Job: 20140858 PO: PO26682 Line: 8       |          |  |
| 6<br>ea                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Part: 646.9813 Rev: A<br>LOWER DEFLECTOR<br>HARD ANODIZE AS PER MIL-A-8625 TY III, CLASS 2<br><br>PRIME AS PER MIL-P-23377J TYPE I CLASS N<br>PRIMER IS SUPPLY BY THE CUSTOMER<br>Job: 20140859 PO: PO26682 Line: 9 |          |  |
| <p>Certificate of Conformance</p> <p>A.T.G. Industries certifies that all items in this shipment are in conformance with all requirements, specifications and drawings referenced in the purchase order.</p> <p>ISO 9001 : 2008 REGISTERED<br/>ATG SALES-2010 TERMS APPLY</p> <p>DATE : 19/12/14</p> <p>CERTIFIED SIGNATURE : </p> <p>RECEIVER SIGNATURE : _____</p> |                                                                                                                                                                                                                     |          |  |

SP14-12-23